Improving Analytical Capabilities of the California Water Plan to Support Integrated Regional Water Planning and Management

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My Name is Rich Juricich with the California Dept. of Water Resources. I am the Project Manager for efforts to improve analytical tools and data for the California Water Plan.

My presentation will highlight a new focus in the California Water Plan to support integrated regional water planning and management and in particular how we propose to improve our analytical capabilities to respond to this new focus.

I also want to acknowledge that my part in the actual development of the approach I am going to talk about is very small. DWR had a great team of staff, technical consultants, and facilitator's that worked extensively with a very large public advisory committee to develop this approach.

Overview

- New Planning Approach for the California Water Plan
- Quantitative Deliverables for the Water Plan
- Three Interrelated Activities to Improve Analytical Tools and Data

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I will provide a brief background on the CA Water Plan and highlight the three topics included in the conference paper

California Water Plan

- Water Plan is mandated by the state legislature
- Update required every 5 years
- First Water Plan in 1957
- Serves as state's strategic plan for managing and developing water resources statewide

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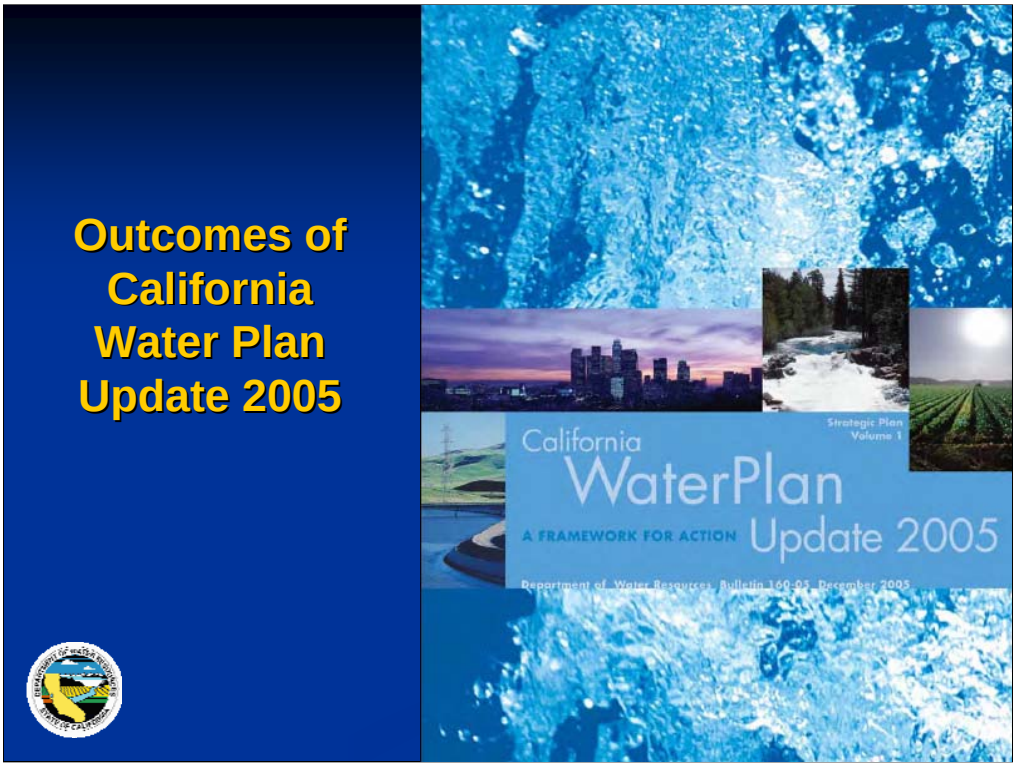
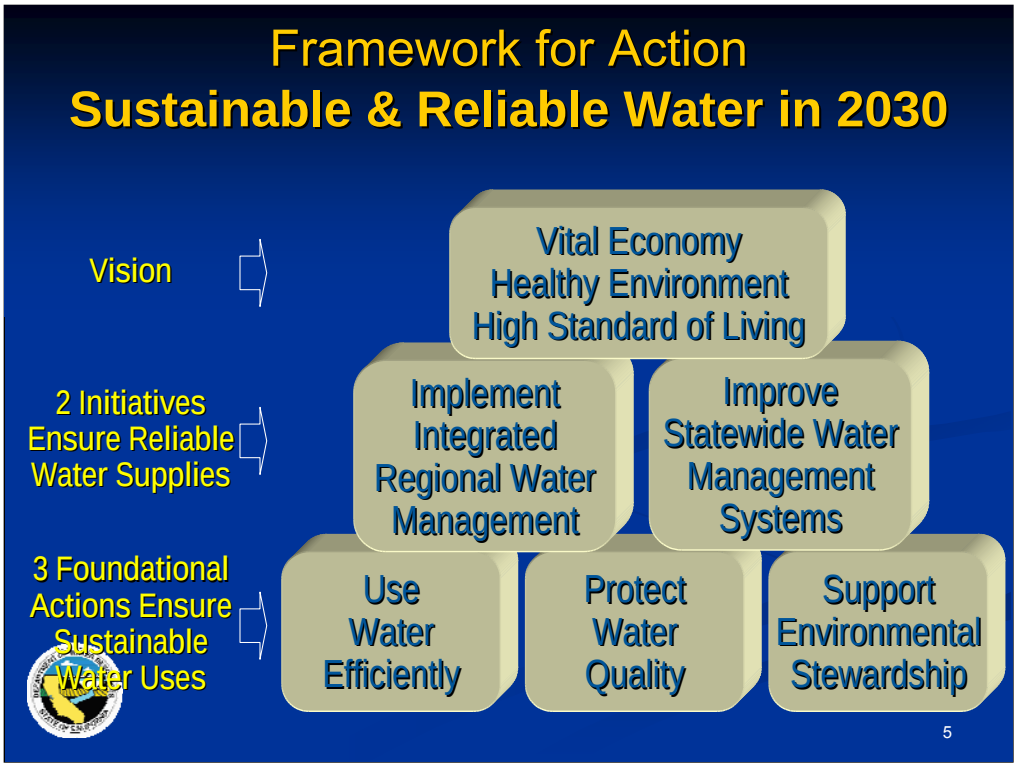
Over time the Water Plan has evolved from a top down approach to bottom up

Update 2005 has a strong emphasis on things the State can do to promote integrated regional water planning and management



Update 2005 came out in December of 2005 after extensive interaction with a 65 person public advisory committee representing a broad array of local, State, and federal agencies, business groups, and interests representing agriculture, urban areas, and the environment

The result was a strategic plan that had broad acceptance of the recommendations



The Water Policy articulated in the Plan lays out a framework for a **sustainable** and **reliable** water supply in 2030.

To ensure our water use is sustainable, California water management must be based on **foundational principles**:

•Use Water Efficiently to improve availability of water supplies

•Protect Water Quality to improve the utility of all water supplies

•Manage water in ways that protect and restore the environment

All or our actions must be consistent with these guiding principles.

To ensure our water supplies are reliable, we must pursue **two major initiatives**:

•Enhance and make better use of our Water Infrastructure – the backbone of water management in California

•Promote and practice integrated regional water management

In addition, the Water Plan describes many **essential supporting actions**, like reforming government, improving data collection and management and applying science…

As I described earlier, the water plan is supported by a complete strategic plan, including an implementation plan for making progress on these initiatives. The implementation plan includes action plans, intended outcomes, resource assumptions, implementation challenges and performance measures.

By implementing this strategic plan, California can achieve the vision we laid out for this update, and ensure a vital economy, healthy environment, and good standard of living for California through 2030.

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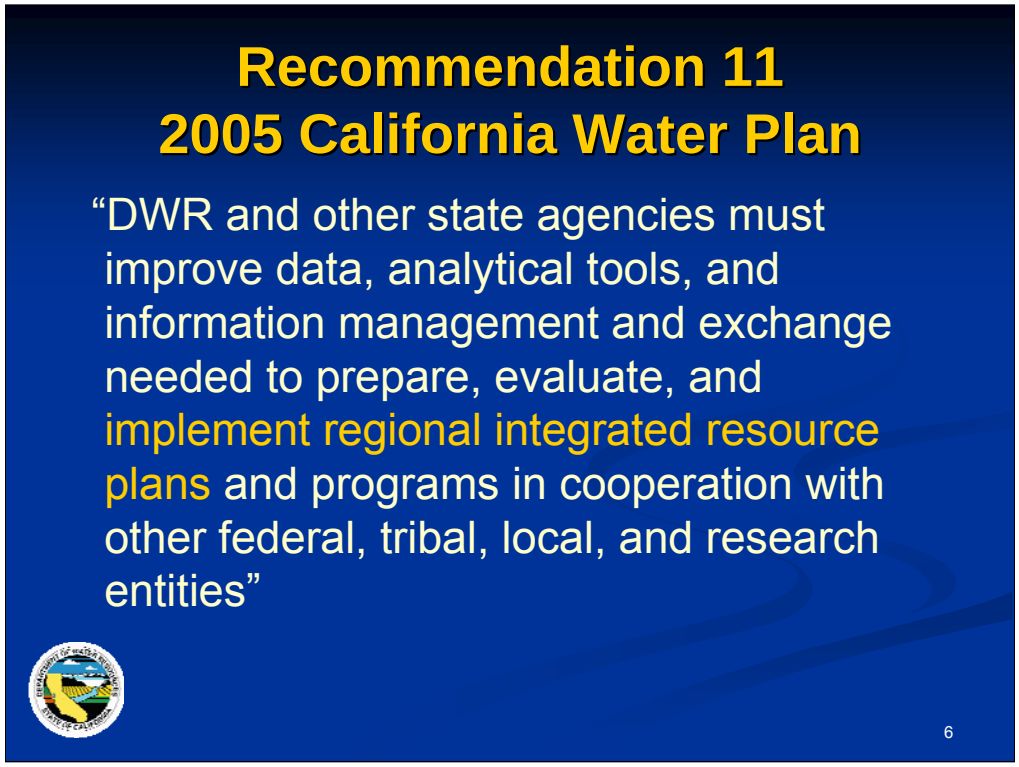
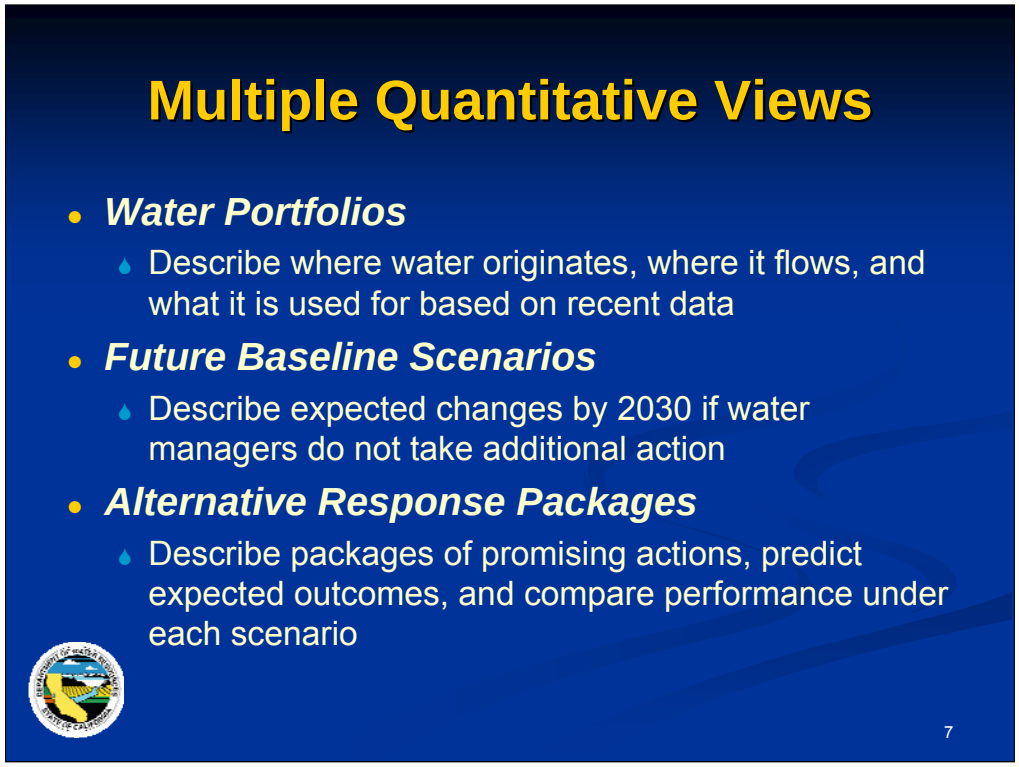


Emphasis on how DWR and other state agencies can support integrated regional water management and planning



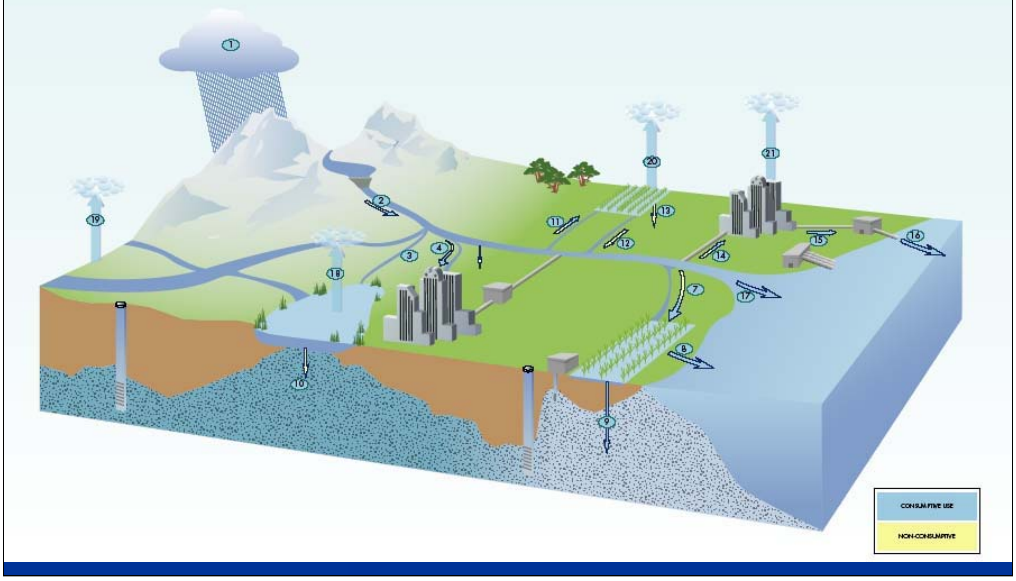
DWR worked with our Water Plan Public Advisory Committee to outline 3 key quantitative deliverables to include in the Water Plan

Implementing these 3 views requires a significant change from previous updates

We were not able to fully implement approach in Update 2005.

The next few slides will highlight content included in Update 2005.

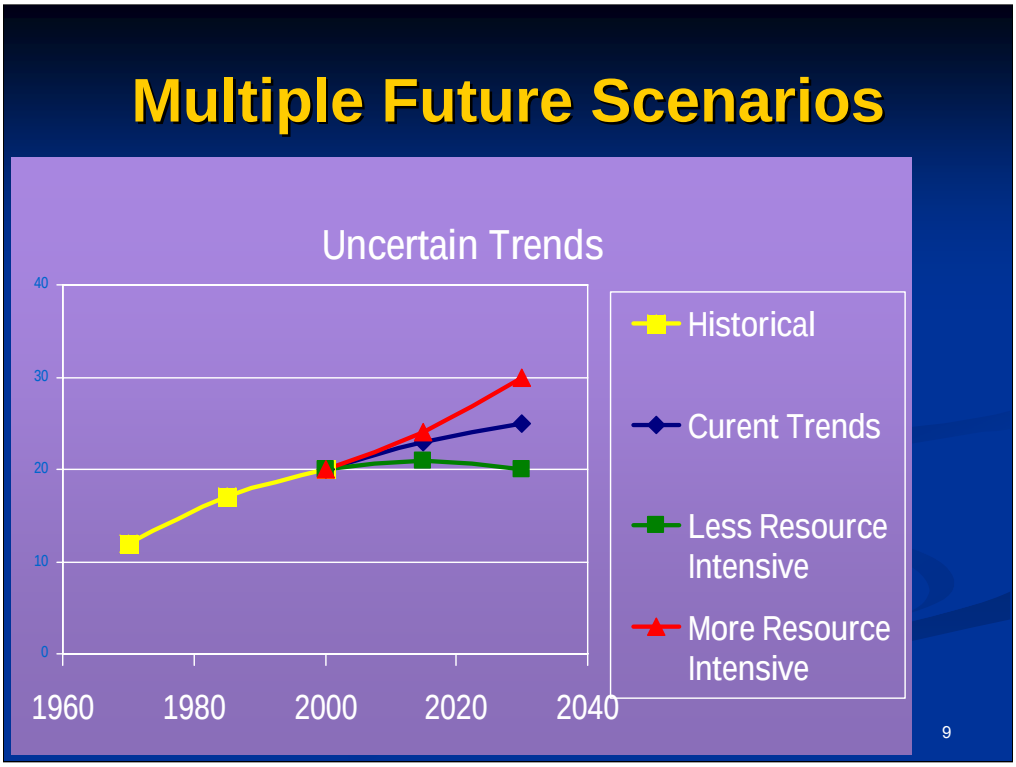
Water Portfolios



Over 80 data categories of water supply & use for 1998, 2000 & 2001

previous updates looked at an average year

Update 2009 will include data for 1999, 2002-2005

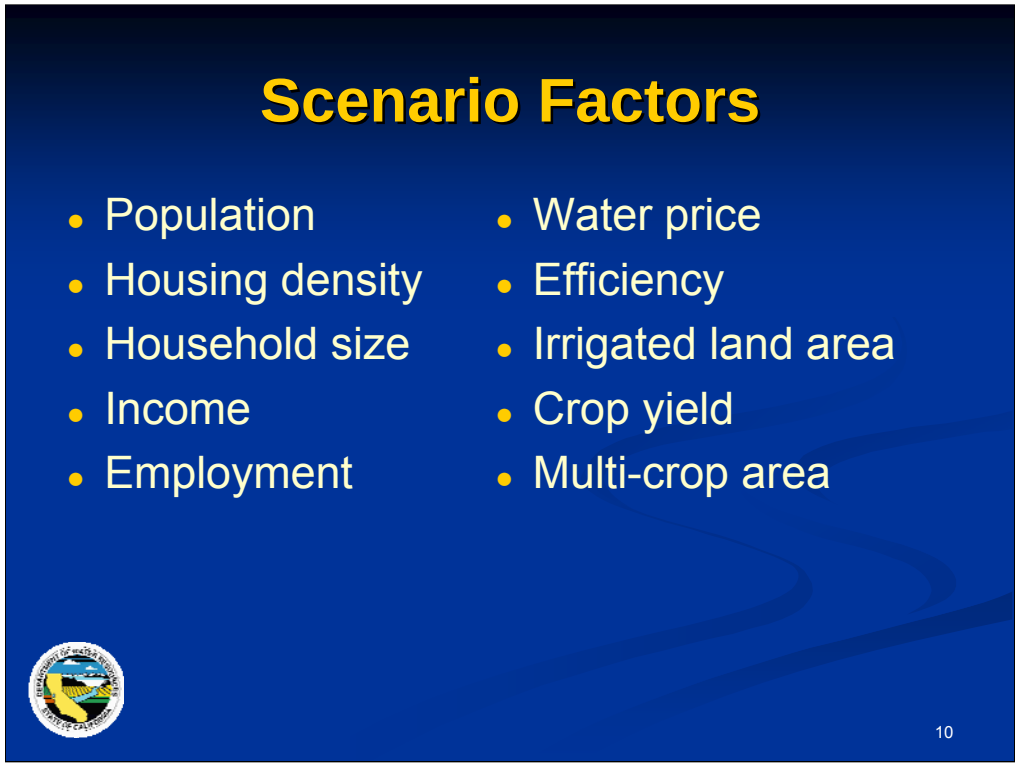


The goal with scenarios is to develop plausible yet different baseline conditions as a surrogate for uncertainties about the future

Current trends = recent trends in population growth and land use

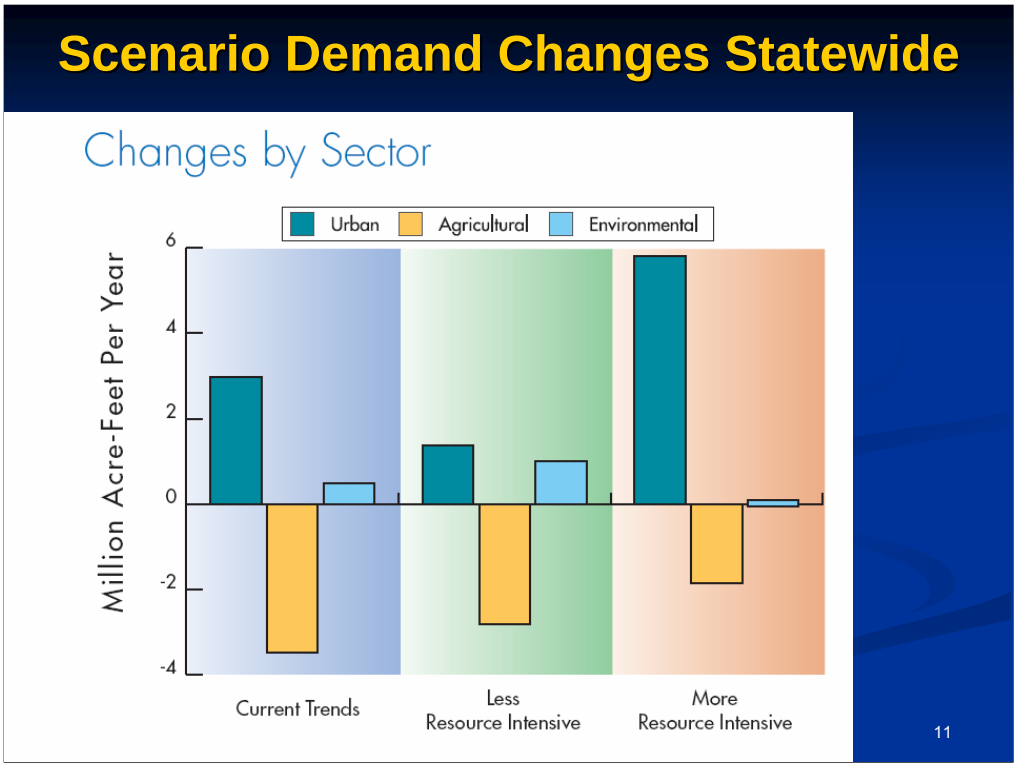
Less Resource Intensive = higher naturally occurring conservation, more environmental water dedication, recent trends in population growth

More Resource Intensive = Higher population growth, lower naturally occurring conservation



Scenarios based on assumptions of key drivers of water demand that water managers have little or no control over

- population
- land use
- housing density
- implementation of conservation BMPs



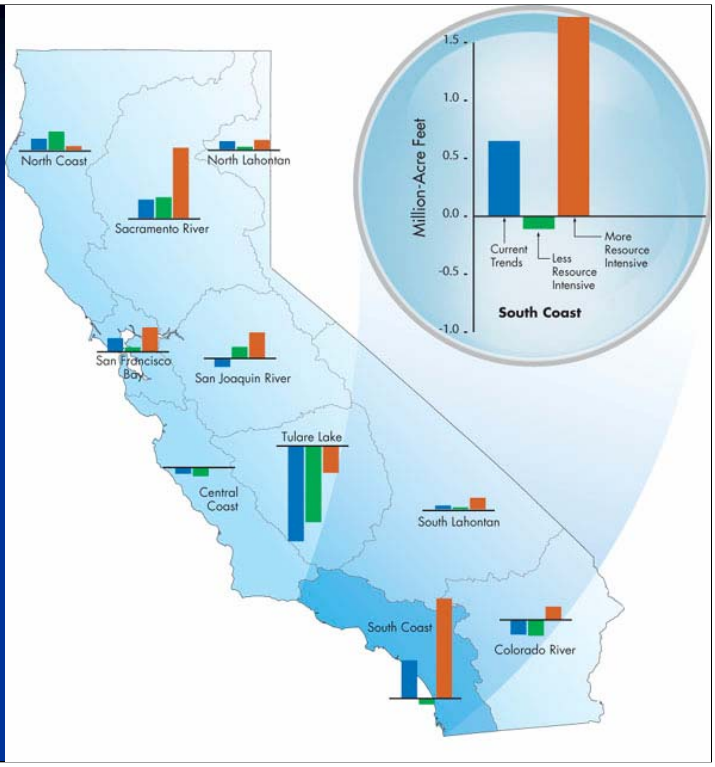
•Statewide Demand changes:

- •Urban: 1.4 to 5.3 MAF increase
- •Ag: 1.6 to 3.9 MAF decrease
- •Environment: 0 to 1.0 MAF increase
- •Groundwater Overdraft (1 to 2 MAF)
- •Additional capacity for droughts and water quality issues

While these figures are interesting, they don't provide an accurate depiction of our future water management challenges. Looking at net statewide demand changes assumes that water flows freely from one region to another – as if the state were a large bathtub. In practice, we need to continue to look at water management challenges on a local and regional basis.

For Water Plan we hope to compare performance of water management strategies over different scenarios of the future

Scenario Demand Changes by Region



Scenarios done for statewide and 10 hydrologic regions

Starting point for response packages

Functions, Benefits, Costs, Implementation challenges

"State of the Art" of each strategy.

Living document - - - to be updated as more is learned

For Update 2005 DWR went beyond our previous focus on supply and demand management.

We added strategies designed to improve water quality, increase operational efficiency, and practice resource stewardship

Strategy Information in Update 2005

- Definition and background
- Current implementation in California
- Potential supply and other benefits by 2030
- Implementation costs
- Tradeoffs, issues, and challenges
- Recommendations

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Each strategy is a chapter in Volume 2 of Update 2005

Developed with extensive participation by Water Plan Public Advisory Committee

Water Management Objectives

- Provide Water Supply
- Improve Drought Preparedness
- Improve Water Quality
- Provide Operational Flexibility
- Reduce Flood Impacts
- Provide Environmental Benefits
- Provide Energy Benefits
- Provide Recreation
- Reduce Ground Water Overdraft

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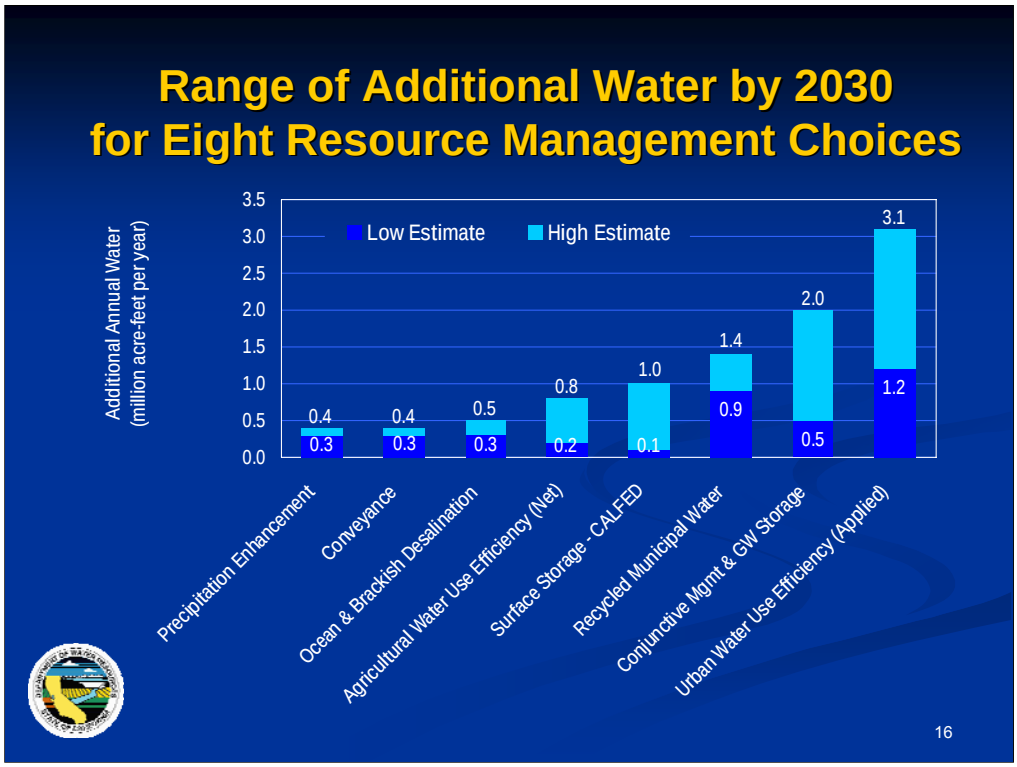
Identified which strategies contributed to 9 objectives



•Resource management strategies write-ups include estimates of the water supply benefits that these strategies might produce in an average water year on a Statewide level by 2030.

•Low ranges – expected through the course we are on.

•Upper end of the ranges -- potential water supply with stepped-up effort. e.g. CU . .5 MAF if we continue to make progress as expected, up to 2.0 MAF if we step up investment and make greater progress on Groundwater Management Plans.

•Not Additive

•Not intended for ranking

•The message here is that California has the tools and capacity to meet future water needs.

Choosing Strategies

- Regions determine best mix of strategies to fit their needs
- State encourages strategies that meet multiple objectives
- State provides technical and financial assistance

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Update 2005 Parking Lot (items not addressed)

- More local detail for Regional Reports and Water Portfolios
- More groundwater information
- Roll-up Urban Water Management Plans
- Include climate change, water quality, and energy relationships
- Improve rep. of environmental water
- Improve data QA/QC, transparency

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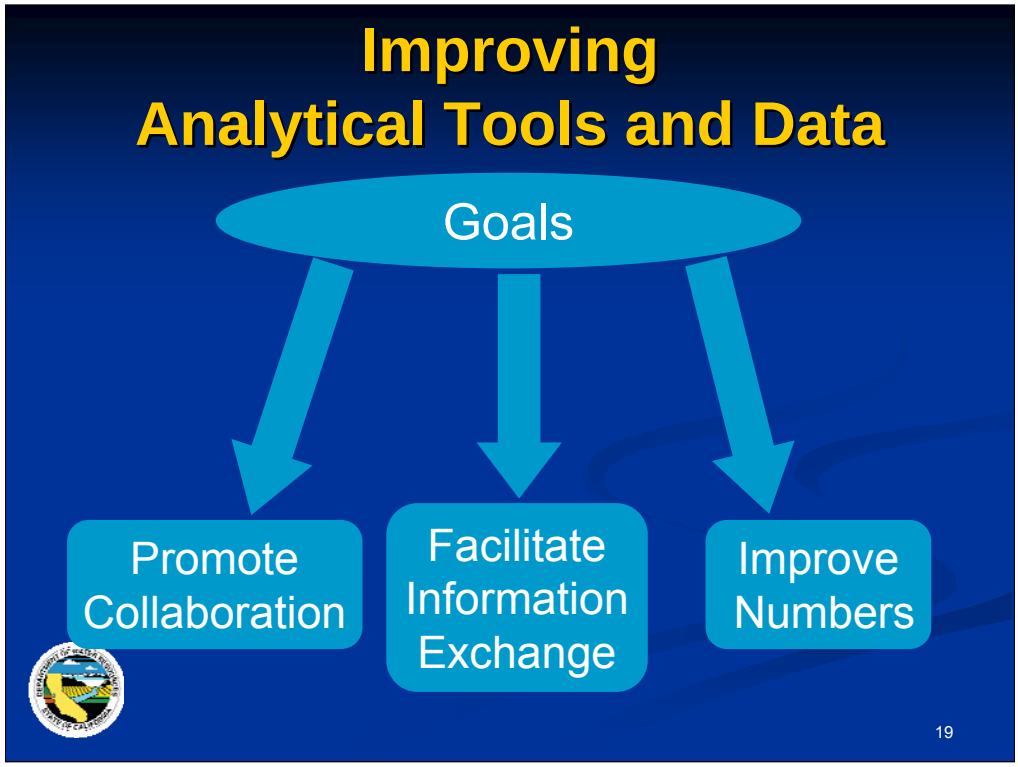
These are a few of the topics we were not able to implement in Update 2005
We are actively working to include many of these items in the next Update



Promote Collaboration – formed Statewide Water Analysis Network as technical advisory group

Facilitate Information exchange – looking at web based technologies and institutional changes

Improving the numbers – looking at a series of pilot studies to test promising approaches

Reference Information

- http://www.waterplan.water.ca.gov
  - Volume 1, CH 4, Update 2005 – Scenarios
  - Volume 2, Update 2005 – Strategies
  - Volume 3, Update 2005 – Water Portfolios
  - SWAN
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Questions?
Water Plan background
Quantitative deliverables
Improving analytical tools and data